

# SALZBURG II RECOMMENDATIONS

EUROPEAN UNIVERSITIES' ACHIEVEMENTS  
SINCE 2005 IN IMPLEMENTING  
THE SALZBURG PRINCIPLES



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## EXECUTIVE SUMMARY

In 2005, the Salzburg Principles were established in the Bologna Process as the basis of the reforms for doctoral education. In the half decade that has passed since then, Europe's universities have carried out wide-ranging reforms in this area, most notably by establishing doctoral schools.<sup>1</sup> The achievements and experiences of Europe's universities affirm and enrich the original principles.

The recommendations, including a series of clues to success and obstacles to clear, have three over-arching messages:

First of all, doctoral education has a particular place in the European Research Area and the European Higher Education Area. It rests on the practice of research, which makes it fundamentally different from the first and second cycles.

Secondly, doctoral candidates must be allowed independence and flexibility to grow and develop. Doctoral education is highly individual and by definition original. The path of progress of the individual is unique, in terms of the research project as well as in terms of the individual professional development.

Lastly, doctoral education must be developed by autonomous and accountable institutions taking responsibility to cultivate the research mindset. Institutions need flexible regulation to create special structures and instruments and continue advancing European doctoral education.

These recommendations are meant as a set of guidelines for a diverse landscape of doctoral schools and programmes, rather than a standardised checklist.

## ENRICHING THE SALZBURG PRINCIPLES

The knowledge society requires the creativity and flexibility of the research mindset for a number of different functions and careers, also beyond those directly related to research. The doctorate has increasingly achieved recognition as a key part of this process.

For this reason, reform of doctoral education has been central to both the European Research Area and the European Higher Education Area over the past few years. The reforms are vital for the sustainable development of Europe and essential for the global research community. Indeed, Europe is emerging as a global leader in reforming doctoral education.

The Salzburg Principles (2005) represented a key milestone in the reform process of doctoral education in Europe, as they drew new common directions from the diverse reforms ongoing at that time in European countries.

Half a decade after the Salzburg Principles, the European landscape of doctoral education has changed profoundly. The adaptation and implementation of the principles have been driven by Europe's universities themselves, and they have attained great expertise and experience through this process.

The achievements of Europe's universities, in their very different contexts, have proven the validity of the Salzburg Principles as a foundation for continuous improvement of doctoral education. They have accumulated experience and developed promising practices, which affirm and enrich these Principles.

The following recommendations are the outcome of the Salzburg II initiative, an intensive consultation with the members of the EUA Council for Doctoral Education (EUA-CDE), the largest and most comprehensive organisation concerning doctoral education in Europe. The outcomes of the consultations were discussed by the more than 220 participants at the Annual Meeting of the EUA-CDE at the Free University of Berlin in June 2010, representing 165 institutions from 36 countries.

The recommendations build on the original Salzburg Principles; they affirm the validity of the basic principles and give them additional, concrete content.

The recommendations are to be read as three different categories. The first category cements the basis of the doctorate as based on the practice of an original research project and thereby different from the first and the second cycles. The second and largest category consists of recommendations for the concrete improvement of doctoral education, aimed at universities as well as at those providing the legal frameworks for doctoral education. The third category is aimed mostly at non-university stakeholders such as political decision makers and funding organisations, and they involve issues such as the institutional autonomy and sustainable funding of doctoral schools.

<sup>1</sup> Throughout this document, the term 'doctoral school' is used as a generic term to include graduate and research schools

## 1. RESEARCH AS THE BASIS AND THE DIFFERENCE

In line with the first Salzburg Principle, the goal of doctoral education is to cultivate the research mindset, to nurture flexibility of thought, creativity and intellectual autonomy through an original, concrete research project. It is the practice of research that creates this mindset.

Doctoral research takes place in a research environment with doctoral candidates as fellow researchers; this demands that institutions base their strategies for doctoral education on their research capacity, critical mass, diversity, and ability to create inclusive environments that will make doctoral candidates active participants in the on-going research.

It is hence essential that the development of doctoral education should follow its own path and not use the same tools as the first and second cycles.

### The meaning of structure

Structuring doctoral education is to create a supportive environment. Setting up structures means taking institutional responsibility for training through research, as defined in the second Salzburg Principle. Doctoral education is an individual journey, and structures must give support to individual development, and not produce uniformity or predictability. The goals of structuring doctoral education must be to assure diverse and inclusive research environments of a high quality as the basis of doctoral education. This includes critical mass, transparent admission procedures and high quality of supervision.

Structuring doctoral education also means achieving flexible structures to expose early stage researchers to a wide range of opportunities, ensuring personal and professional development and to provide institutional support for career development and mobility. Taught courses are to be seen as a support to the individual professional development of doctoral candidates; they are not central to the meaning of structure.

### Conclusions and Recommendations from the Bologna Seminar on “Doctoral Programmes for the European Knowledge Society” (Salzburg, 3-5 February 2005)

- i. **The core component of doctoral training is the advancement of knowledge through original research.** At the same time it is recognised that doctoral training must increasingly meet the needs of an employment market that is wider than academia.
- ii. **Embedding in institutional strategies and policies:** universities as institutions need to assume responsibility for ensuring that the doctoral programmes and research training they offer are designed to meet new challenges and include appropriate professional career development opportunities.
- iii. **The importance of diversity:** the rich diversity of doctoral programmes in Europe – including joint doctorates – is a strength which has to be underpinned by quality and sound practice.
- iv. **Doctoral candidates as early stage researchers:** should be recognized as professionals – with commensurate rights – who make a key contribution to the creation of new knowledge.
- v. **The crucial role of supervision and assessment:** in respect of individual doctoral candidates, arrangements for supervision and assessment should be based on a transparent contractual framework of shared responsibilities between doctoral candidates, supervisors and the institution (and where appropriate including other partners).
- vi. **Achieving critical mass:** Doctoral programmes should seek to achieve critical mass and should draw on different types of innovative practice being introduced in universities across Europe, bearing in mind that different solutions may be appropriate to different contexts and in particular across larger and smaller European countries. These range from graduate schools in major universities to international, national and regional collaboration between universities.
- vii. **Duration:** doctoral programmes should operate within an appropriate time duration (three to four years full-time as a rule).
- viii. **The promotion of innovative structures:** to meet the challenge of interdisciplinary training and the development of transferable skills.
- ix. **Increasing mobility:** Doctoral programmes should seek to offer geographical as well as interdisciplinary and intersectoral mobility and international collaboration within an integrated framework of cooperation between universities and other partners.
- x. **Ensuring appropriate funding:** the development of quality doctoral programmes and the successful completion by doctoral candidates requires appropriate and sustainable funding

When establishing structures, the importance of diversity as stressed in the third Salzburg Principle is crucial. Many different structures and diverse strategies will enrich doctoral education in Europe.

Structures should be developed at the appropriate level of governance and not be imposed on or within the institution. It is essential that academic staff takes responsibility and ownership of these structures through inclusive procedures.

## 2. CLUES FOR SUCCESS

### 2.1. Critical mass and critical diversity

Doctoral education is dependent on the research environment. Institutions must develop a **critical mass and diversity of research** in order to offer high quality doctoral education. Critical mass does not necessarily mean a large number of researchers, but rather the quality of the research. In line with the sixth Salzburg Principle, Europe's universities have developed diverse strategies to assure critical mass and diversity, building their areas of strength through focused research strategies and engaging in larger research networks, collaborations or regional clusters.

### 2.2. Recruitment, admission and status

Structured programmes should **develop recruitment strategies that correspond to their particular mission and profile**. Recruitment strategies should be connected to explicit outcomes, identifying clear profiles of the candidates wanted. Such profiles should build on the parity of esteem of a range of different qualities and ensure equality of opportunity. In this manner, recruitment policies could take into account criteria such as international recruitment, gender equality, social background or different age groups. Recruitment should value **the research potential of the candidates over past performance and above all the candidates' potential to succeed in the programme to which they are being admitted**.

**Admission to a doctoral programme is an institutional responsibility**, which must include the strong involvement of research staff. Admissions policies must be **transparent and accountable** and should reflect the research, supervisory and financial capacity of the institution. Admissions policies should also provide the appropriate flexibility in the choice of supervisor. Transparency and accountability will be strengthened by having a **single, identifiable place to apply**, at least at programme level. Admissions should be based on a **well-defined, public set of criteria**. Institutions should **accept risk in admitting doctoral candidates** and allow them to demonstrate their potential through a monitoring system.

Doctoral candidates should be recognised as **early stage researchers** with commensurate rights and duties. Regardless of legal status, they are to be seen and treated as professionals as stated in the fourth Salzburg Principle.

### 2.3. Supervision

As stressed in the fifth Salzburg Principle, supervision plays a crucial role. **Supervision must be a collective effort** with clearly defined and written responsibilities of the main supervisor, supervisory team, doctoral candidate, doctoral school, research group and the institution, leaving room for the individual development of the doctoral candidate. **Providing professional development to supervisors is an institutional responsibility**, whether organised through formal training or informal sharing of experiences among staff. Developing a common **supervision culture** shared by supervisors, doctoral school leaders and doctoral candidates must be a priority for doctoral schools. **Supervisors must be active researchers**.

### 2.4. Outcomes

**The main outcome of doctoral education are the early stage researchers** and their contribution to society through knowledge, competences and skills learnt by undertaking research, as well as awareness and openness towards other disciplines. The outcome of their research must **testify to the originality of the research and be suitable for dissemination within the scientific community**.

### 2.5. Career development

**Career support for doctoral candidates must take into account individual goals and motivations and acknowledge the wide range of careers for doctorate holders**.

While the doctoral candidate is responsible for their career choices given the situation on the labour market, **it is the institution's responsibility to provide support structures for professional development**. **Offering training in transferable skills, including understanding the ethics of research, is central**, and should be a priority for doctoral schools and programmes. Professional development of doctoral candidates includes **awareness about skills attained through doing research** as well as of the wide range of career choices for doctorate holders. Building ties to the other sectors contributes to bridging the communication gap with potential employers and recruiters.

### 2.6. Credits

Applying the **credit system** developed for cohorts of students in the first and second cycles **is not a necessary precondition for establishing successful doctoral programmes**. Some universities consider credits useful for the taught components of doctoral education, especially in cross-institutional (joint) doctoral programmes. Credits, however, do not make sense

when measuring the research component or its associated dissemination outputs. Applied wrongly, rigid credit requirements can be detrimental to the development of independent research professionals. High quality doctoral education needs a stimulating research environment driven by research enthusiasm, curiosity and creativity, not motivated by the collection of credits.

### 2.7. Quality and accountability

It is necessary to develop **specific systems for quality assurance in doctoral education** based on the diverse institutional missions and, crucially, **linked to the institutional research strategy**. For this reason, there is a strong link between the assessment of the research of the institution and the assessment of the research environments that form the basis of doctoral education. Assessment of the **academic quality of doctoral education should be based on peer review** and be sensitive to disciplinary differences.

In order to be accountable for the quality of doctoral programmes, institutions should **develop indicators based on institutional priorities** such as individual progression, net research time, completion rate, transferable skills, career tracking and dissemination of research results for early stage researchers, taking into consideration the professional development of the researcher as well as the progress of the research project.

### 2.8. Internationalisation

**Internationalisation strategies should be a tool in increasing the quality in doctoral education and in developing institutional research capacity.** Internationalisation in doctoral education is understood and interpreted in different ways, ranking **from internationalisation at home** (using the international profile of the home institution such as international doctoral candidates, staff, events and guest researchers), **collaborative doctoral programmes** (with individual mobility – such as co-tutelle) to **international joint doctoral programmes** (joint, integrated curricula, joint committees and juries, and the joint degree). As stressed in the ninth Salzburg Principle, doctoral education should include the possibility for mobility experiences. The choice among these different models of internationalisation must be coherent with the research strategy of the institution and the individual needs of the doctoral candidate. **The mobility of doctoral candidates must be driven by the research project.**

## 3. CLEARING THE OBSTACLES

The growth of doctoral schools in Europe has been extremely impressive. Much has been done to implement reforms and to continuously develop doctoral education. Universities have proved that they have the will and the expertise to carry out a thorough modernisation of doctoral education, but they still encounter obstacles to their ambitions.

### 3.1. Funding

The tenth and final Salzburg Principle underlines the importance of sustainable funding. Universities as well as doctoral candidates are still underfunded. **High quality doctoral education requires adequate, sustainable and doctorate-specific funding opportunities.**

Making a structured programme a success requires more than funding for grants or salaries for doctoral candidates and research equipment. **Strategic leadership, supporting structures and career development all need resources.** The same goes for the management of the **physical space** where the programmes are located. Experiments with new types of research environments, open offices, retreats or similar have proven effective in creating inclusive research communities. Governments and funding organisations should be aware of these needs in their initiatives for doctoral education.

Giving doctoral schools and programmes the **sustainable financial means to recruit candidates** would improve the competitiveness of European doctoral education. Letting high quality doctoral schools administer resources for grants and salaries will strengthen the capacity of doctoral schools to engage in flexible recruitment strategies to attract the best candidates for their profile. Funding schemes that aim at increasing the number of doctoral candidates should **take into account the quality and capacity of the programmes.**

### 3.2. Autonomy

Institutions need autonomy to be able to establish, and be accountable for, diverse structures with different research strategies and strengths. The use of specific tools must be decided autonomously within the institution in accordance with the profile of the doctoral programme and the needs of the doctoral candidate.

### 3.3. Legal framework

The national and European legal frameworks must give institutions the possibility to engage in innovative doctoral programmes and take the necessary institutional responsibilities.

Institutions must be able to develop their systems for quality assurance and enhancement independently within their national frameworks. They must have the **freedom to develop**

**their own indicators for quality** that correspond with the standards of the individual disciplines as well as with the overall institutional strategy.

**National legislation governing joint or dual degrees should be reviewed to facilitate international collaborations.** The aim should be to create a greater degree of coherence and transparency on the requirements for setting up programmes with joint or dual degrees.

### **3.4. Intersectoral collaboration**

All stakeholders should engage in **measures to facilitate co-operation between providers of doctoral education and the non-academic sectors to the mutual benefit of all partners.** It is essential to **create awareness about the qualities of doctorate holders** as well as **to build trust between universities and other sectors.** Such trust is, for example, **built on formalised but flexible research and research training collaboration between industry and higher education institutions,** including joint research projects, industrial doctorates or similar schemes.

The European University Association (EUA) is the representative organisation of universities and national rectors' conferences in 46 European countries. EUA plays a crucial role in the Bologna Process and in influencing EU policies on higher education, research and innovation. Thanks to its interaction with a range of other European and international organisations EUA ensures that the independent voice of European universities is heard wherever decisions are being taken that will impact on their activities.

The Association provides a unique expertise in higher education and research as well as a forum for exchange of ideas and good practice among universities. The results of EUA's work are made available to members and stakeholders through conferences, seminars, website and publications.

